

**REMARKS**

Reconsideration and allowance of the subject application are respectfully requested.

Applicants note with appreciation the Examiner's indication of allowable subject matter in claims 13-20. These claims have been amended to remove some features directed to the disclosed example embodiment and include them as dependent claims. In addition, new dependent claims have been added.

Claims 1-7, 9, and 10 stand rejected under 35 U.S.C. §103 as being unpatentable over Weaver (5,357,423) in view of Theller (5,847,284). This rejection is respectfully traversed.

Claim 1 recites "a non-destructive bond strength tester for determining certain bond strength parameters of a bonded component without destroying the bonded component." Weaver does not teach a bond strength tester. Instead, Weaver describes automatically adjusting power output of an ultrasonic generator in the context of a wire bonder, i.e., a device that produces rather than tests wire bonds. There is no teaching in Weaver of testing the bond strength after the bond has been generated.

Although Theller discloses testing "hot tack" properties of a heat seal, Theller's testing approach is destructive rather than "non-destructive." Contrary to claim 1, the seal strength is determined at the cost of destroying the heat seal. This destructive test method is described in Theller's Abstract: "upon completion of the heat seal the sealed ends of the test strip are *pulled apart* at a prescribed constant rate to gradually *delaminate* the heat seal while the heat seal is cooled at a prescribed rate. Force required to delaminate the seal is continuously recorded as a function of time as the heat seal cools, thus providing data on seal strength." Lacking a non-destructive bond strength tester for determining certain bond strength parameters of a

bonded component without destroying the bonded component, the combination of Weaver and Theller fails to disclose or suggest claim 1.

Claim 1 also recites “an ultrasonic phaselocker for generating a measurement signal used to determine bond properties.” Weaver’s ultrasonic generator generates a signal to produce a wire bond using ultrasonic energy. Weaver does not disclose a measurement signal used to determine properties of that bond.

Further, claim 1 recites “a data recorder to acquire measurement data including the measurement signal from the phaselocker, load data from the controller, and a recording time.” Neither reference teaches acquiring the claimed measurement data. Nor do Weaver or Theller teach calculating from such measurement data “certain bond strength parameters associated with elastic properties of the bond.” There is no teaching in Weaver of determining any type of bond strength parameter. Theller’s destructive heat seal tester does not in any way determine an elastic property of the heat seal. Theller determines strength of the seal by breaking it.

Because Weaver and Theller lack multiple features from independent claim 1, the obviousness rejections based thereon are improper and should be withdrawn.


While Applicants do not agree that claims 11 and 12 are “substantial duplicates,” claim 11 has been canceled, rendering the double patenting rejection moot.

The application is in condition for allowance. An early notice to that effect is earnestly solicited.

Heyman, et al.  
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Respectfully submitted,

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